

# ANNUAL REPORT

OF THE

## Medical Officer of Health

(JOHN C. THRESH, M.D., ETC.)

FOR THE

### CHELMSFORD

### Rural District Council

FOR THE YEAR 1904.

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# Chelmsford Rural District Council.

## REPORT

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## Medical Officer of Health

*FOR THE YEAR 1904.*

Sub-Registration District.		Area in Acres.	Population Census, 1901.
1. Chelmsford	.. Three parishes	14,029	3,737
2. Ingatestone	... Eleven „	28,476	6,226
3. Great Waltham	... Ten „	25,690	6,415
4. Great Baddow	.. Five „	15,408	7,339
Total ... 29 parishes		83,603	23,717

TO THE MEMBERS OF THE CHELMSFORD  
RURAL DISTRICT COUNCIL.

GENTLEMEN,

I have pleasure in submitting to you the 16th Annual Report which I have prepared since becoming your Medical Officer of Health. It is primarily intended for the use of the Local Government Board and the County Council, but it ought to be of still greater service and interest to the members of the Rural District Council and the inhabitants of the district.

There is much general ignorance as to the duties of the Rural District Council with reference to sanitary matters, and as to the duties of the officers of the Council. The Council is the Sanitary Authority for all the 29 parishes included in the district, the Parish Councils having exceedingly limited powers with reference to conditions affecting the public health. The

powers are conferred upon the District Council by the various Public Health Acts, Acts for the Prevention of Infectious Diseases, etc. Meetings are held every fortnight in the Board Room of the Union Workhouse, when all matters bearing upon the sanitary condition of the district, the prevalence of Infectious Diseases, etc., brought forward by the officials or otherwise brought before the notice of the Council are considered and instructions given to the Officials as to the steps to be taken for further improving the condition of the district, by the construction of works, the abatement of nuisances, prosecution of offenders, etc. The *executive* officers are (1) the Surveyor and Engineer who supervises all waterworks and sewage works already constructed, and the carrying out of such further works of this character as may be entrusted to him, who examines and reports upon all plans submitted for new buildings and supervises their erection so far as seeing that the building bye-laws are not infringed and that houses are built in accordance with the officially approved plans ; (2) The Inspector of Nuisances, usually called the Sanitary Inspector, who keeps the whole of the district constantly under observation for the detection of nuisances and all conditions inimical to health, inspects milk shops, dairies, cowsheds, bakehouses, slaughter-houses, workshops and workplaces. He also makes enquiries about the prevalence of infectious diseases, disinfects houses and carries out generally all the instructions given by myself for the prevention of infectious illness. The *advisatory* officer of the Council is the Medical Officer of Health. This office is held by myself, and it is my duty to keep myself thoroughly acquainted with the sanitary condition of every parish and receive notifications of all infectious diseases occurring therein, and to make such a study of the distribution of disease and of its relation to insanitary conditions as to justify me in advising the Council with regard to the steps necessary to increase the healthiness of the district and to prevent as far as is possible, the prevalence of such diseases as are preventible. As I am Medical Officer of Health to an

adjoining district and to the Essex County Council I find it necessary to keep Assistants, who possess not only the usual medical qualifications but also qualifications in Public Health. One of these gentlemen is kept engaged in making detailed inspections of the various parishes and in making investigations as to sources of infection and the means whereby disease is spread. Every detail is laid before me daily and where necessary I make personal inspections and enquiries. The wide range of experience which I obtain by my inspections throughout the County is thus available for the information and guidance of the Council in their deliberations. This experience also justifies me in expressing the opinion that the Council takes the greatest interest in sanitary administration, and though on rare occasions it may not accept my advice in its entirety, the work of the Council is conscientiously discharged and the sanitary administration generally is very efficient. It is absolutely impossible for any Council or any set of officials to discharge the duties which devolve upon them without occasionally giving offence, but the great tact displayed by the two executive officers has reduced complaints to a minimum and has greatly facilitated the carrying out of improvements.

The undulating character of the district and the absence of any dense centres of population conduce to its salubrity, but the difficulty of obtaining water in many parishes on account of their being on the London clay has caused heavy expenses to be incurred in providing public water supplies to secure that degree of cleanliness of person and of premises so necessary for the preservation of health. The low average rainfall also increases the difficulty in obtaining water. During the past year the rainfall has only been 16·8 inches, the average for the previous 10 years being 22 inches. This is 8 inches or more below the average for England and Wales.

The district comprises a large working class population almost entirely dependent upon agriculture and, therefore, not in a position to pay more than a small house-rent. In the

parishes immediately adjoining the Borough of Chelmsford the workpeople are better housed as they can afford to pay a higher rent. This question of the housing of the agricultural labourer has received much of my attention during the year and in making inspections of the various parishes enquiries have been made as to the prevalence of over-crowding, the number of cottages with three bedrooms and the general condition and sufficiency of the existing accommodation. In May last Messrs. Conybeare, Millbank, Gibson, Sacré, C. S. and J. Ratcliff, Speakman, Kidner and Barnard were appointed a Committee to consider the whole question of the Housing of the Working Classes. They have not yet met as it was thought desirable to wait until every parish had been inspected and this report thereon issued.

The following Table prepared from the 1901 census returns will serve as a useful index to the parishes in which the population is greatest in proportion to the number of inhabited houses :—

Parishes.	Population.	Inhabited houses.	Persons per 100 houses.
Ingatestone Sub District—			
Stock & Buttsbury	1,117	265	422
East Hanningfield	418	93	450
Ingatestone & Fryerning	1,748	406	430
Margaretting ...	551	125	441
Rettendon ...	692	158	438
Runwell ...	239	62	385
South Hanningfield	174	45	389
West „	409	98	417
Woodham Ferris	878	198	443
Chelmsford Sub District—			
Roxwell ...	696	170	409
Widford ...	323	69	468
Writtle ...	2,718	626	434



Parishes.	Population.	Inhabited houses.	Persons per 100 houses.
Great Waltham Sub District—			
Boreham ...	820	189	434
Broomfield ...	911	227	401
Chignall ...	367	94	390
Good Easter ...	488	98	498
Great Leighs ...	614	157	391
Great Waltham ...	2,021	479	422
Little Leighs ...	143	31	461
Little Waltham ...	646	151	428
Mashbury ...	174	42	414
Pleshey ...	231	68	339

## Great Baddow Sub District—

Danbury ...	849	218	390
Great Baddow ...	2,308	534	432
Little Baddow ...	510	124	411
Sandon ...	398	97	410
Springfield ...	3,274	674	486

The following Table for the whole district is of interest in connection with this enquiry :—

	Tenements of				
	1 room.	2 rooms.	3 rooms.	4 rooms.	5 rooms & over
Occupied by 1 person	12	70	58	159	...
2 persons	2	27	86	353	..
3 „	1	18	50	345	...
4 „	...	5	26	282	...
5 „	...	1	20	237	...
6 „	...	1	16	155	...
7 „	...	...	6	101	...
8 „	...	...	2	56	...
9 „	...	...	4	26	...
10 „	...	...	...	9	...
11 „	...	...	...	4	...
12 „	...	...	...	5	...
Total No. of tenements	15	122	268	1,732	3,427
No. of persons therein	19	209	774	6,726	15,989
No. per tenement	1·3	1·7	2·9	3·9	4·66

It is exceedingly probable that over-crowding exists in every two-roomed house in which there are more than 3 occupants, in every 3-roomed house in which there are more than 4 occupants, and in every 4-roomed house in which there are more than 6 occupants. This gives a total of  $7 + 48 + 211 = 266$  over-crowded houses. I am afraid the real total is higher than this since many of the so-called rooms enumerated in these cottages are merely lean-to kitchens or sculleries or bedrooms too small and too badly lighted and ventilated to be suitable for sleeping apartments.

Unfortunately the census returns do not give the details for each parish so that it is impossible to locate these cases of over-crowding from the Table, but the former Table may help us in determining this. From this Table we can divide the parishes into groups according to the number of persons per house.

Under 4 persons per house.	4 to 4.25 per house.	4.25 to 4.5 per house.	Over 4.5 per house.
Runwell	Stock & Buttsbury	East Hanningfield	Widford
South Hanningfield	West Hanningfield	Ingatestone and	Good Easter
Chignall	Roxwell	Fryerning	Little Leighs
Great Leighs	Broomfield	Margaretting	Springfield
Pleshey	Great Waltham	Rettendon	
Danbury	Mashbury	Woodham Ferris	
	Little Baddow	Writtle	
	Sandon	Boreham	
		Little Waltham	
		Great Baddow	

It does not follow that, because the number of persons per cottage is low, more houses are not required or *vice versa*, since the size and condition of the existing houses are also important factors, therefore it is desirable to consider each group separately.

PARISHES WITH UNDER 4 PERSONS PER HOUSE. In *Runwell* and *Danbury* the cottage accommodation is generally satisfactory. In the former parish the Rector has provided a number of excellent cottages and in the latter Mr. Baker has erected a number of houses and has pulled down some very old and



dilapidated property on the Common and is erecting decent cottages in their place.

In *Chignall and South Hanningfield*, both parishes with a small and very scattered population, there are many very small old houses, some of them in a condition of dilapidation, but there does not appear to be any demand for additional houses. In the latter parish Mrs. Addison has erected 4 new cottages during recent years.

In *Pleshey* there are very many old houses in anything but a good state of repair. In many the thatching is very defective, or window frames and door frames dilapidated, or the living room floors are of brick, uneven and damp. There is a want of cottages with 3 bedrooms. At the time of the inspection there was one to let. When a labourer's wife was told that her husband ought to take it, she replied that his wages did not average more than 14s. per week, that they were then paying 2s. 6d. a week for rent which was as much as they could afford. The rent asked for the large cottage was 5s. 3d. per week. It was obvious that with a young family they could not be pressed to take this larger house. This is typical of many conversations with families living in overcrowded houses.

A few cottages with 3 bedrooms, if they could be let at 3s. 6d. per week would be a great boon to this parish. There would be a general moving up of the population and the worst cottages would then become untenanted.

*Great Leighs.* No over-crowding is known to exist in this parish although many of the houses are very small and old. The general condition is very fair.

#### PARISHES WITH 4 TO 4.25 PERSONS PER COTTAGE.

*Stock and Buttsbury.* In Stock village the cottages are in fair condition, and it is doubtful whether more cottages are required. In the outlying parts, especially in Buttsbury parish, a few cottages with 3 bedrooms are wanted, but these are not likely to be supplied by private enterprise, although on the Billericay Road a row of 7 such houses has been erected

and let at 6s. per week, 4 other new cottages with only 2 bedrooms are let at 3s. per week. Many cases of overcrowding are known, and in two instances there have been prosecutions during the year. The cottages occupied by these families have only one bedroom each.

*West Hanningfield.* Although the cottages here are in fair condition and sufficient in number, many of them are very small and there are many cases of overcrowding. At the time of the inspection 5 empty cottages were found, 3 had only a single bedroom each and two had 3 bedrooms each. When the occupants of the overcrowded houses were asked why they did not take one of the larger cottages their reply was that they had their present cottages rent free as they belonged to their employers and that if they removed they would have to pay rent without receiving any increase of wages, or they would lose their situations. Some of the smaller cottages might with advantage be thrown together, two being made into one.

*Roxwell.* The houses generally are in good condition. No cases of overcrowding were discovered, but there seems to be a want of cottages with more than two bedrooms. For example in one house with two bedrooms lives a family consisting of the parents, a son aged 20 and daughter aged 24. The two latter have to sleep in separate beds in a small bedroom of about 700 cubic feet capacity, the beds being only about 3 feet apart and separated by a curtain. In another house there is only one bedroom in which sleeps a man and his two adult daughters. In several of the houses with two bedrooms there lives families consisting of the parents and from three to six children, but they are not overcrowded from a legal point of view.

*Broomfield.* A number of six-roomed cottages or villas have been built in recent years and appear to be let as soon as completed. The general condition is very good and any demand for houses which exists is likely to continue to be met by private enterprise as the parish adjoins the Borough of Chelmsford.

*Great Waltham.* This parish contains several distinct hamlets. At Ford End and North End there are a few unsatisfactory old cottages, but there is apparently no demand for increased accommodation. In Great Waltham village the cottages are in a fair condition and there is no demand for further accommodation. No case of overcrowding is known. In the outlying parts of the parish there are many old lath-and-plaster and thatch houses in anything but a good condition. Some of these have received special attention during the year.

*Mashbury.* The cottages recently provided here appear to have relieved the overcrowding which formerly existed, and the parish may be said to be adequately provided with houses.

*Little Badlow.* The houses generally are in good condition but some dilapidations were discovered. On all hands there were complaints that houses were scarce, a few of the existing ones have only one bedroom and most of them have only two. There is some overcrowding which cannot at present be abated as the families cannot obtain more roomy cottages. For example one cottage with two bedrooms is occupied by a man and wife, two daughters aged 22 and 18, and two sons aged 20 and 14 respectively. In another resides a man and wife and six children. In both there is an objectionable co-mingling of the sexes which the tenants would gladly avoid if they could get larger cottages. A few larger cottages are wanted and would at once be occupied.

*Sandon.* Five unoccupied cottages were noticed here but four had been allowed to fall into such a ruinous condition that they will probably never be occupied again. Of the 50 occupied cottages inspected 41 had two bedrooms, eight had three bedrooms and one had four bedrooms. This parish apparently has no cottage with only one bedroom. Many of the two bedroomed cottages were in a bad state of repair and the owners have been recently served with notice to repair. In three cases the families consisted of the parents and six children. All these were in cottages with two bedrooms, but

in one instance the front room downstairs had been converted into a bedroom. Where rent is paid this varies from £2 8s. 8d. to £7 16s. per annum. Most houses, however, are let at £5 8s. 8d.

PARISHES WITH 4·25 TO 4·5 PERSONS PER HOUSE.

*East Hanningfield.* Forty-nine occupied cottages were examined, nine unoccupied cottages were noted, but three of these were in ruins and the others were in a bad condition of repair. Of the six cottages with one bedroom each four were unoccupied. Thirty-three occupied cottages had two bedrooms each, 13 had three bedrooms each, and one had four bedrooms. In two instances cottages with two bedrooms had 10 occupants. A few new houses have been erected during recent years, and the reasonable requirements of the parish appear to be met, but tenants could be found for a few cottages. There are a good many old cottages, defective in structure but kept in fair repair.

*Ingatstone and Fryerning.* There are many good class houses here employing coachmen, gardeners, etc. A few years ago there was great difficulty in obtaining housing accommodation, but after the Rural District Council had held an enquiry in the village and threatened to put in force the Housing of the Working Classes Act land was sold for building purposes and many cottages erected. The existing demand is being met by private enterprise. No cases of overcrowding are known. There are in the outlying portions of the area many very old cottages, but most of these are now in fair repair.

*Margaretting.* Cases of overcrowding constantly occur at the Tye, where there are several very old cottages. In the parish generally the houses are in fair order. About six new cottages have been erected within recent years, yet there is a demand for further accommodation. I heard of one man employed in the parish but who had to live in Widford since he could not obtain a house for his family in Margaretting. As in other parishes there is overcrowding of a kind, but not of a gross character.



*Rettendon.* This is an exceedingly large parish. The village is on the north bank of the Crouch and is known as Battles Bridge. Elsewhere the houses are very scattered and most of them are very old, but they are kept in fair condition. The erection of about half a dozen good cottages by Mr. Meeson has provided sufficient accommodation for the present requirement of the parish. With a railway station, a public water supply and a hill commanding extensive views it is surprising that development does not proceed more rapidly here.

*Woodham Ferris.* This extensive parish adjoins Rettendon and has a public water supply and railway station. Development has proceeded here on the low-lying land between the station and the river, the land having been laid out and much of it sold for building purposes. The village lies a mile away on the top of the hill to the north. Here certain cottages are becoming ruinous, though still occupied. There is no spare cottage accommodation, and I was told of several couples who were anxious to get married but could not obtain a house. There are vacant houses on the marshes and in outlying places, but some good cottages with two and three bedrooms are much wanted in or near the village. At present there is overcrowding which cannot be abated, and many of the villagers expressed the wish that they could have both better and more roomy cottages. Examples of the overcrowding:—

House with two bedrooms (1) Husband and wife, sons aged 21, 19, 15, 12, 9, 6 and 3 respectively and infant daughter; (2) husband and wife, sons aged 23, 19, 13, daughters aged 17 and 11 respectively. Tenement with one bedroom. Husband and wife and five children, ages from 14 to five years.

With few exceptions the cottages are in a fair condition of repair, but a number of insanitary conditions were found in the yards and back premises.

*Writtle.* This large civil parish includes two ecclesiastical parishes, Writtle and Highwood. The former adjoins Chelms-

ford Borough, the latter is some four miles away. In Highwood there are many wretched old cottages. Some of these have recently changed hands and have since been greatly improved. Many of the cottages are up by-roads or green lanes and are almost inaccessible in wet weather. Most of the people are of the poorest class who have never been better housed and who express no desire for better houses. Probably better houses would improve the character of the inhabitants if some one could be persuaded to try the experiment.

Writtle parish includes the village proper and a colony of new cottages on the Waterhouse Estate on the Borough boundary. Many of these are now untenanted. It is alleged that this is because of the want of a proper water supply and proper drainage, but it is probably due to an entirely different cause. When trade improves in the factories in the neighbourhood they will again be occupied. Many new houses have also been erected near the village during recent years and no doubt private enterprise can be depended upon to provide more when the demand arises. There are but few dilapidated cottages. On the Green there is a group in which I have reported three as being obstructive buildings, and the Council is taking the necessary steps to have them pulled down. They stand on ground which should form the yards to the cottages in front.

*Boreham.* Many of the cottages in this parish are damp and more or less dilapidated and the tenants complain that they cannot obtain better accommodation. There is no doubt that a few cottages with three bedrooms would be taken immediately. No serious cases of overcrowding were detected.

*Little Waltham.* All the cottages here are in fair condition and there is apparently no demand for increased accommodation. No cases of overcrowding were discovered.

*Great Baddow.* This parish adjoins the Borough of Chelmsford and there is no doubt that private enterprise will provide all the necessary accommodation here. Many new



cottages have been erected during recent years, and an attempt is being made to develop a building estate for the erection of more cottages.

#### PARISHES WITH MORE THAN 4·5 PERSONS PER HOUSE.

It might almost have been expected that these would be the parishes in which cottages were most required, but the number of persons per house depends greatly on the character of the houses, and in two of the four parishes in this group there are single houses in which quite a staff of servants is employed, hence the average number of persons per house is increased.

*Springfield.* This is a residential suburb of Chelmsford, and during recent years many villas, large and small, have been erected therein. Private enterprise will provide all the accommodation required here.

*Widford.* This parish includes a small village, or part of a small village, the remainder being in Chelmsford Borough. There is quite a group of very small cottages "in the fields" and overcrowding is not uncommon, though it is rarely of so gross a character as to constitute an offence under the Public Health Acts. The erection of half-a-dozen good cottages would probably result in some of the smallest and worst cottages becoming untenanted, a consumation devoutly to be wished.

*Good Easter.* Some years ago the Council seriously considered the question of erecting cottages here, but Mr. Mathews put up a number of good cottages with three bedrooms which he lets to his labourers at five guineas a year. This has improved matters, but there is such a number of old cottages, small and on the verge of inhabitality, and so much unavoidable overcrowding that at least six more cottages are urgently required. It is a very poor parish and the cottages would have to be let at a very low rental to secure tenants.

*Little Leighs.* This is a small parish containing a few scattered farms with cottages near. The people did not think

any better accommodation was necessary nor does there appear to be any urgent necessity for it.

I respectfully submit the above report to the Council and to the Cottage Committee for their serious consideration. The bye-laws now enable cottages to be erected at a somewhat cheaper rate than heretofore, and I hope an attempt will be made to provide a few in one or more parishes as an experiment. It is quite certain that the rents obtained will never cover the annual instalments of the principal and interest, nor should it be expected to do so as in such case the poor tenants would be paying for property which would ultimately become the property of the parish or of your Council. Assuming that each cottage left a burden of £2 per annum to be paid from the rates 50 such cottages would only increase the rates by £100 per annum, and for £1,000 per annum we could provide no less than 500 cottages. If I were asked whether I would rather see this sum spent annually in providing cottages or in supporting an Isolation Hospital I should be inclined to say spend the money in cottages. By so doing the Council would prevent a great many of the cases of infectious disease which now occur, and there would consequently be less use for a hospital. Moreover the general improvement in the sanitary circumstances of the district would compensate for the entire expenditure. The provision of cottages at a low rental in our rural districts is a question of national importance and there is an opportunity for the Council to show that this can be done without imposing too heavy a burden upon the rates, I am aware that it will be urged that the Local Government Board will not sanction a loan for cottages unless they are of an expensive type, but I doubt whether such would be the case provided the scheme could be shown to be a satisfactory one.

#### **Water Supplies.**

The rainfall during the past year has been one of the lowest recorded, but the heavy rainfall of the previous year

so replenished the springs and wells by raising the level of the subsoil water that there has been no unusual scarcity.

The works at Great Baddow supplying that parish and Springfield have given a continuous and abundant supply during the year without having to resort to pumping from the new deep well. The amount of water supplied during the year was 32,135,500 gallons. The spring, from which the water is derived, drains land part of which is now being built upon and part of which is being excavated for gravel. Sewers have been laid during the year to drain these new properties and special precautions have been taken to make these absolutely tight. I am sorry to find that rubbish is being tipped in one of the old gravel pits, but this is chiefly builders debris, soil from excavations, etc. The spring water is examined chemically and bacteriologically in my laboratories and so far has proved to maintain its high degree of purity. I purpose, however, undertaking a special investigation during the coming year as the conditions are such that the results would probably prove to be of more than local interest. I have advised the purchase of the land adjacent to the spring. A new engine-house has been erected to contain the machinery for the Air Lift plant and a new treble ram pump. The whole is now completed.

During the year it has been decided to further improve the supply to Springfield by providing a more powerful engine and laying a new 6-in. main across the valley to the highest part of Springfield. The estimated cost is £1,840. At the Local Government Board enquiry the Clerk stated that at the present time the works supplied 311 houses and a brewery in Great Baddow and 635 houses and the Gaol in Springfield. By pumping directly into the new main an increased pressure of 30lbs. will be placed on the high level supply, which is sufficient to command all the new houses, and to be of use in case of fire.

The Danbury Waterworks, supplying the parish of Danbury, Little Baddow, Sandon, Bienacre and Woodham Ferris, Rettendon and Battles Bridge, Runwell and East Hanningfield,

have been improved by the erection of a new treble ram pump. The amount of water supplied to these parishes during the year was 16,019,410 gallons. A constant supply has easily been maintained. The water continues of excellent quality and the springs yield far more water than is at present being utilized. An arrangement was made with the Billericay R. D. Council to supply the parish of Wickford temporarily. The Rochford R. D. Council wish to make a similar arrangement for the extension of the main at Battles Bridge to supply houses which are in the Rochford District. The annexed diagram shews the number of gallons of water supplied throughout the year, from the Great Baddow and Danbury works.

The Ingatestone Waterworks supply the village of Ingatestone a portion of which is in Fryerning. The deep well, bored last year, is only used for a short period each day, as a well is being sunk to act as a reservoir for the water. Unfortunately the cylinders got displaced and a great deal of delay has resulted. Meanwhile the well is providing a limited supply to the parishes. The pumping and service mains have been completed.

A new public well has been sunk at Beggars Hill in Fryerning parish for the use of a group of cottages. In other parishes depending upon shallow wells and springs improvements have been effected in several instances by re-constructing the wells or protecting the springs.

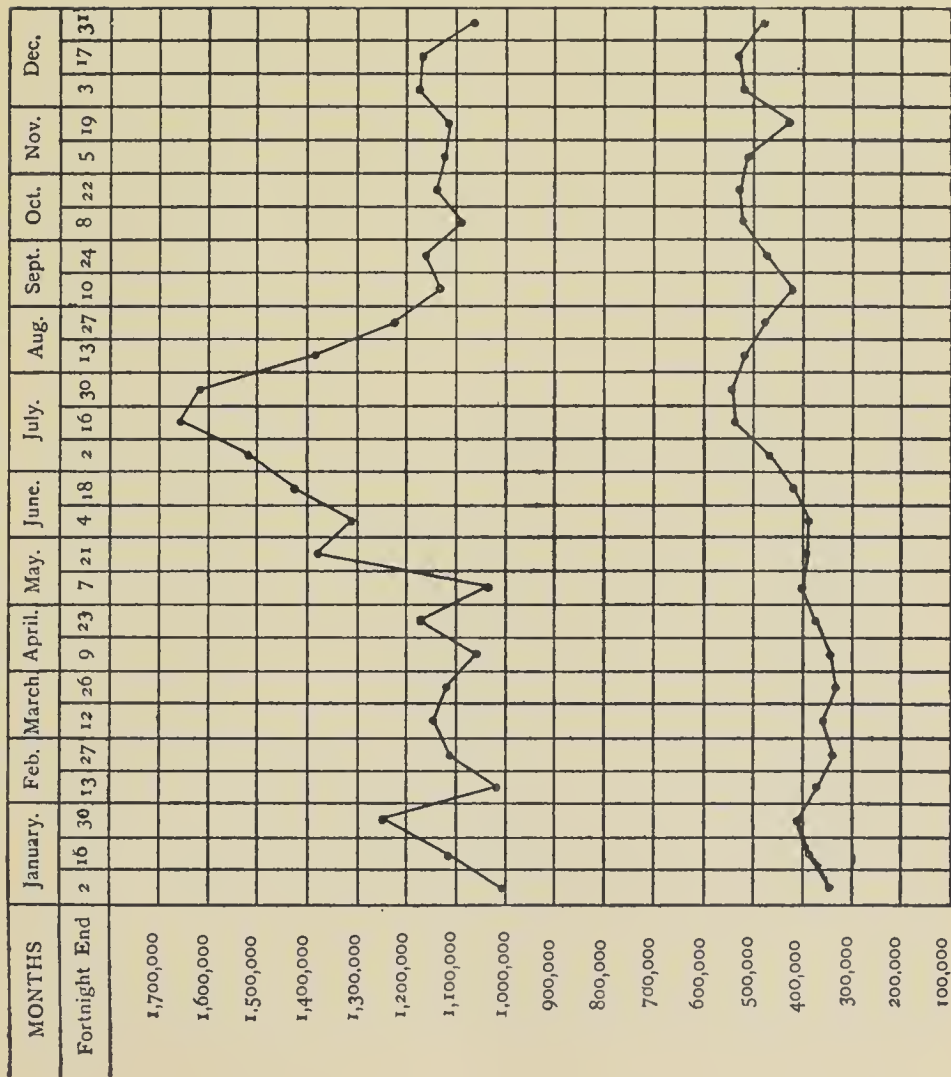
The Little Waltham spring, the water from which is piped down to the village, has not yet been protected, but negotiations are in progress with the owner of the land upon which the spring rises.

The Great Waltham supply (spring water raised by a ram) continues to be satisfactory. At North End, in this parish, a spring has been purchased and the water is being conducted to a standpipe at the roadside for the use of the hamlet.

At Briton's Hall, Chignal, Lord Rayleigh has had a well bored to supply water for dairy purposes. Water was reached in the Thanet sands at a depth of 280 feet. I understand that



Chelmsford Rural District Council Waterworks Consumption Chart.



JAMES DEWHIRST A.M.I.E.E.  
Water Engineer.

the boring was continued into the chalk, but I have not received a section of the well. The water was of good quality. A series of trial bores were made at Little Green in the endeavour to find water nearer than the spring, but all were failures. The deepest bore was 34 feet, reaching the London clay.

The water supply to Stock village has received a good deal of attention. The shallow wells yield very little water and the quality leaves much to be desired. The village is one of the most elevated in the district, standing on a cap of Bagshot sand which "weeps" all round, but at no point gives rise to a spring of any magnitude. A site behind the village has been selected for a trial bore, as any water found here will probably be free from the contaminating influence of the houses.

In June a petition was presented from the residents along the Braintree Road, Little Waltham, asking the Council to endeavour to supply them with water. No means of doing this has been suggested, trial bores made in the locality failing to find water.

In granting water certificates to new houses care is taken to see that the wells are properly constructed. In one instance a certificate was withheld until the well had been re-made. In other cases the opportunity has been taken to cause existing supplies to be more adequately protected from contamination. When plans are sent in shewing that the water supply is to be derived from a well, a circular is sent to the builder stating that unless the well is properly constructed a certificate may not be granted. The circular gives certain details concerning the construction of wells.

Over 50 samples of water have been submitted to me for analysis. Many of these came from the premises of cow-keepers and I regret to say that some of them were very impure. One cowkeeper sold his cows upon finding that his water supply was sewage polluted. This subject is receiving special attention, the Inspector now taking a sample of the water used at each cowshed inspected.



EXTENSION OF WATER MAINS. Great Baddow, 1,516 yards of 3-in. main along the Beehive and Vicarage Lanes. Ingatestone, 2,427 yards of 5-in., 768 yards of 4-in., and 958 yards of 3-in. main.

### **Sewerage and Drainage.**

The Baddow sewer has been extended along Beehive Lane to the Cottage Homes and as far as Dawkins' Farm. Improvements have been effected in Pleshey and other parishes where houses drain into roadside ditches. In several instances great improvement has been effected by the owner taking up the drains and compelling the tenants to dispose of slop-water on their gardens. In rural districts every house should have enough ground upon which to dispose of the slop-water without causing a nuisance. Unfortunately, notwithstanding, the low value of land this is far from being generally the case.

The sewage field at Ingatestone requires constant attention to secure a satisfactory effluent. The tenant has given notice of his intention to give up the land. The Writtle sewage works is kept under constant supervision. I have inspected it frequently and upon no occasion have I found any effluent flowing into the river. The sewage after passing through the coke bed is pumped upon the land and completely absorbed. The small filtration beds at Great Waltham have little effect upon the sewage beyond preventing solid matter entering the river. This suffices, however, to prevent any nuisance being created.

SEWER EXTENSIONS. 1,064 yards of 9-in. along the Beehive Lane and Baddow Road, Great Baddow. 220 yards of 9-in. and 38 yards of 6-in. at Ingatestone.

### **Excrement Disposal.**

In Widford, Springfield and Baddow a large proportion of the houses are provided with water-closets, and the great majority of these are hand-flushed. A proper

supply of water is insisted upon in all new cottages, but nothing can be done with the existing waterless water-closets beyond inspecting them frequently and giving instructions about cleansing. In the strictly rural parishes the number of pail closets is increasing and the number of privy cesspits diminishing. There are comparatively few houses without convenience for disposing of the pail contents, but occasionally we have found the filth buried too near the well or thrown on the ground instead of being covered with earth. The importance of putting into the pail daily a little dry ashes or earth is recognized by the more cleanly, but the plan is not generally adopted. Doubtless it increases the frequency of the emptying operation, but it robs it of much of its unpleasantness.

In the populous parts of Writtle, Broomfield and the Walthams the pail closets are scavenged by contractors. The cost is £38 for Writtle, £22 for Broomfield and £12 10s. per annum for the Walthams. This work is carried out satisfactorily.

### **House Refuse and its Disposal.**

In Springfield and Great Baddow the refuse is removed weekly by a contractor who uses a properly covered cart. The cost is £80 per annum for Springfield and £60 for Great Baddow. Moveable dustbins are insisted upon. In other parishes the house refuse is removed by the tenants and the bye-laws with reference thereto are fairly complied with.

### **Places, etc., over which the Council exercise Supervision.**

**ERECTION OF HOUSES.** The alteration of the bye-laws in order to permit, under reasonable restrictions, the erection of houses of other than bricks or stone has not yet resulted in any increase in the number of cottages erected. This may probably be due to the existing depression which has caused many workpeople to leave the Borough and neighbourhood, thus easing the demand for houses. The Surveyor has kindly

furnished me with the following Table of dwelling houses erected and completed during the year:—

Parishes.			No. of houses erected.
Great Baddow	...	...	6
Broomfield	...	...	6
Springfield	...	...	4
Ingatestone	...	...	4
Danbury	...	...	3
Woodham Ferris	...	...	3
Rettendon, Margaretting, Writtle and Roxwell	...	...	2 each
Sandon, Little Baddow, Buttsbury, Pleshey, Runwell, Stock and West Hanningfield	...	..	1 each
Total			<hr/> 41 <hr/>

The Surveyor exercises a conscientious supervision over the plans submitted and over the buildings during erection, reporting defects and defaults to the Building Committee. Notwithstanding this the jerry builder has not disappeared from the district.

DAIRIES AND COWSHEDS. These are frequently inspected and an improvement is being slowly effected. The Regulations are being revised by a Committee, upon which are some experienced cowkeepers who are fairly well satisfied with things as they are. I am convinced that the adoption of stringent regulations will be of little use unless the dairymen and cowkeepers can be made to see that it is to their own interest to respect them. One or two model dairies in the vicinity of each town would soon secure such an amount of patronage as would cause the owners of present dairies and cowsheds either to re-model them or give up the calling. In the same way if the large milk purveyors refused to receive milk from cowkeepers producing milk under unsatisfactory conditions, there would soon be a rapid improvement. Milk

produced in overcrowded, badly ventilated and lighted cow-sheds, may be abundant in quantity but it must be poor in quality. If cows were allowed a little more air space in the byres and fresh air were more freely admitted we should hear less about tuberculosis and less about reducing the standard of quality in order to escape the public analyst. With milk produced under more cleanly conditions, and properly cooled before leaving the premises, there would be no necessity for the use of preservatives. When the public come to recognize these facts they will refuse to use milk swarming with bacteria or loaded with preservatives.

**SLAUGHTERHOUSES.** I had occasion during the year to direct attention to the fact that many butchers were not complying with our bye-laws, by providing proper receptacles for blood, offal, etc., and in not removing such filth speedily. A copy of the bye-laws was then sent to the occupier of every slaughterhouse, and I hope the effect will be beneficial. Most of these places are of wood and very difficult to keep sweet and clean.

**OFFENSIVE TRADES.** An old corn mill has recently been converted into a bone-boiling and grinding factory without permission being obtained from the Council. The work is carried on in such a way as to create the minimum amount of nuisance and the continuance of the work has been acquiesced in. The gut-scraping business has given rise to no complaint.

**BAKEHOUSES, WORKSHOPS AND WORKPLACES.** These are visited during the systematic inspections. The bakehouses generally have been much improved and are kept more exclusively for baking purposes. The white-washing of blacksmiths' shops has not been insisted upon, but the Inspector sees that everything reasonable for securing satisfactory sanitary conditions for the workers shall be provided. In rural agricultural districts very little supervision over workshops and workplaces is necessary, the conditions are so different to those which obtain in towns and in manufacturing districts.



### Nuisances.

Most of the nuisances dealt with during the year have been detected during inspection. Their character is shewn in the Inspector's report. Nuisances arising from want of paving at the rear of cottages are common, and in the worst of such cases the Sanitary Committee agreed to the Inspector taking such action as would prevent the recurrence of any cause for complaint. The keeping of pigs is occasionally a cause of nuisance, but it is surprising how few pigs are kept in the district. An alleged nuisance arising from cattle fouling a public pond caused a great amount of trouble. It is very doubtful whether the smells complained of really arose from this cause. The majority of the nuisances detected arise either from defective privy cesspits or from matters under the immediate control of tenants, such as improper disposal of slops and house refuse. The cleansing of several dirty houses has been insisted upon, and many others are known which are far from being as clean as could be desired. If the children of our working people could be taught the value of cleanliness, the next generation would be healthier and there would be much less work for the Nuisance Inspector.

The Inspector discharges his duties very satisfactorily and his supervision has certainly improved the sanitary condition of the district. He is not content with merely detecting and recording nuisances, but he keeps them constantly in mind until they are abated. He must be a thorn in the flesh to certain agents for cottage property, who persist in taking their own time in abating nuisances. The Council errs a little on the side of leniency. If they would insist upon more prompt action the work of the Inspector would be much facilitated.

During the summer my attention was directed to the fact that a large number of pea-pickers were being employed in Sandon and that no accommodation of any kind was provided for them. I found that about 200 persons were so engaged, of whom three-fourths were strangers. A few slept in barns, but the great majority slept under hedges or under the sacks to be

used next day for holding the peas. This arrangement, or want of arrangement, causes great annoyance to the neighbourhood and should not be permitted. Bye-laws compelling the provision of sleeping and other accommodation can be adopted, but the farmers say that the pea-picking lasts for so short a time that they cannot afford to provide shelters, etc., and that if the bye-laws were adopted and enforced they would simply have to cease to grow peas. I cannot help thinking that each farmer could provide tents or barns sufficient to keep the people on his own land at a comparatively trifling expense and, if this is not done voluntarily, then the Council must take some action, as it is an intolerable nuisance to have these people lying on the roadside or prowling about all night.

No articles of food have been seized during the year, but two lots of condemned food stuff (flour and dates) have been sent into the district for feeding of animals. So far as was possible the Inspector saw that the stuff was only used for this purpose.

#### **Improvements effected during the Year.**

1. The works for supplying Writtle with water, and for sewerage the parish are progressing slowly. They are being carried out by Messrs. Taylor, Sons and Santo Crimp, of Westminster. I sincerely hope they will be completed during the coming year.

2. The works for providing Ingatestone with pure water from a deep well. These also are progressing slowly for reasons already given.

3. Erection of new engine and engine-house at the Great Baddow works and the extension of the water mains up Vicarage and Beehive Lanes. Completed.

4. Improvements in supplies of water to North End and other places.

5. General attention to ditches receiving house slops, the covering in of some, the cleansing of others and cutting off the drains in a few cases.



### **Improvements Required.**

1. The completion of the works at Writtle and Ingatestone.
2. The provision of water under a higher pressure at Springfield Hill. (Now in hand).
3. The provision of a water supply for Stock.
4. The provision of better cottages in a few parishes.
5. Better water supplies to many dairy farms.

### **Infectious Diseases.**

**METHODS OF DEALING WITH.** Every notified case is promptly visited by myself or my assistant, not only to discover, if possible, the source of the infection, but also to ascertain if there are other cases of a suspicious character which may have escaped notification, and to determine whether in the interest of the public the patient should be removed to the Isolation Hospital. If this is not considered necessary instructions for home isolation are given and the inspector or my assistant visits frequently to see that proper precautions are being taken. After removal of the patient to the hospital or his recovery if not removed the room occupied by him is thoroughly disinfected by formalin spray, and afterwards with burning sulphur. The formalin irritating the eyes and respiratory passages some experiments have been made with dilute cyllin, and probably this more recent disinfectant will be substituted for formalin in future as it appears to give equally good results and it neither damages the paper nor leaves any objectionable odour clinging to the room.

The Isolation Hospital belongs to a Joint Board formed over a year ago. The accommodation provided has not been increased as yet, but an additional ward block is to be erected.

The definite notified cases give comparatively little trouble and it is rarely found that they serve as foci for infection. The dangerous cases, those which spread infection and cause epidemics, are the mild or atypical cases which are

not definitely recognized. These we can never hope to prevent and such being the case we can never expect to eradicate infection merely by removing patients to hospital and disinfecting houses. It is generally considered that if the Medical Officer of Health promptly causes a case to be removed and the house to be disinfected that he has discharged his duties in a highly commendable manner. As a matter of fact this gives little or no trouble and can be all done by an intelligent Inspector as a matter of routine. The skill of the Medical Officer of Health is shewn in the way in which he traces the source of the infection, finds previously unrecognized cases and persuades patients and friends of such cases to take proper precautions. This requires time, skill and tact and, unfortunately, there is little to show for all the labour expended. The Medical Officer of Health may by his action have prevented a serious epidemic. It is the same with communities as with individuals. Advice may be given to an individual which prevents him falling a victim, say to Typhoid Fever, but the person who gave the advice will not receive such expressions of gratitude as he would were he to allow the individual to acquire typhoid and then cure him of it. Prevention may be better than cure, but the public appreciates the cure far more than the prevention, a lamentable condition due to thoughtlessness and ignorance.

In the present day infectious diseases are chiefly spread by the aggregation of children together in our public elementary schools. Schoolmasters and attendance officers are usually the first to discover that some infectious disease is prevalent yet they are under no obligation to communicate their suspicions to me hence a disease may become epidemic before I am aware of its presence. Whilst writing this I have received a letter asking for a closing order for a School which was closed early in December on account of an epidemic of Measles and re-opened on Jan. 2nd and this is the very first intimation I have received of the presence of Measles in that parish. Measles and Whooping Cough which kill far more

children than Scarlet Fever are regarded as such trivial affections that no one interests himself in preventing their spread even by acquainting the Medical Officer of Health, yet if a single case of Scarlet Fever occurs a most unnecessary commotion ensues. This is one of the unfortunate effects of the Notification Act. The Act should be amended in some way to secure the notification of the earliest case of any infectious disease, Measles, Whooping Cough, Chicken-pox, German Measles, Mumps, Impetigo or Ringworm, which occurs amongst children of school age or attending School. This is required not only in the interest of public health, but also in that of Education. Outbreaks of these diseases seriously affect the attendance and upset the educational arrangements, but unfortunately it is better from the grant point of view to allow an epidemic disease to spread rapidly so that the schools have to be closed than to prevent the spread by the exclusion of a number of scholars. No "grant" is lost if a school is closed on account of the prevalence of disease, but any attempt to prevent the occurrence of an epidemic by the exclusion of scholars results in a decreased "grant." When a great State Department fosters ideas which encourage the spread of infection, what can we reasonably expect from the public or from the local educational Committees. Far more attention is directed to a single pig infected with fever than to 100 children infected with Measles or Whooping Cough.

Of the notifiable infectious diseases only 69 have been officially reported during the year, of which nine only were Diphtheria. The majority of the cases were Scarlet Fever of a mild type. In nine parishes no case whatever has been notified and in seven only a single case has occurred. This record is very satisfactory especially when it is noted that over half the cases occurred in two parishes, Springfield and Writtle.

DISTRIBUTION OF INFECTIOUS DISEASES NOTIFIED DURING  
THE YEAR.

	Diphtheria.	Enteric Fever.	Scarlet Fever.	Erysipelas.	Small Pox.	Puerperal Fever.	Total.
Buttsbury ...	0	0	3	0	0	0	3
Ingatestone and Fryerning ...	0	0	0	0	0	0	0
Margaretting ...	0	0	0	0	0	0	0
Rettendon ...	0	0	1	0	0	0	1
Runwell ...	0	0	0	0	0	0	0
Stock ...	0	0	5	0	0	0	5
West Hanningfield ...	0	0	0	0	0	0	0
South Hanningfield ...	0	0	0	0	0	0	0
Woodham Ferris ...	0	0	0	1	0	0	1
Roxwell ...	1	0	0	0	0	0	1
Widford ...	0	0	0	0	1	0	1
Writtle ...	7	0	7	0	0	0	14
Boreham ...	0	0	0	0	0	0	0
Broomfield ...	0	0	0	0	0	0	0
Chignall ...	0	0	1	0	0	0	1
Good Easter ...	1	0	0	0	0	0	1
Great Waltham ...	0	0	1	3	0	0	4
Great Leighs ...	0	0	3	0	0	0	3
Little Waltham ...	0	0	0	0	0	0	0
Pleshey ...	0	0	1	0	0	0	1
Danbury ...	0	0	0	2	0	0	2
Great Baddow ...	0	0	6	0	0	0	6
Little Baddow ...	0	0	0	0	0	0	0
Springfield ...	0	5	20	0	0	0	25
Total. .	9	5	48	6	1	0	69

It does not follow, however, that more cases have not occurred. The difficulty in diagnosis has led to my examining several doubtful cases with the medical attendants, and many others not attended by medical men have been kept under supervision. In one case, at first suspected to be Scarlet Fever, the patient was found to be suffering from a rash due to the use of a quack medicine. In the Highwood district a child was thought to be suffering from Diphtheria, when I saw it with the medical attendant a rash had developed suggestive of Scarlet Fever. A bacteriological examination was made of the secretion on the tonsils and the diphtheria bacillus was not found. Meanwhile other children near became feverish and



had an evanescent rash, and as the houses were overcrowded they were removed to the hospital. Later developments indicated that the disease was not Scarlet Fever. A house to house visitation revealed the fact that there had been a considerable number of such cases, as many as four in a single house. In the majority of cases there was no subsequent disquamation, and only in a few could any trace of this process be discovered and it certainly did not resemble that following Scarlet Fever. Whether it was Fourth Disease, German Measles, Influenza or an exceedingly mild type of Scarlet Fever, I cannot say, but the hospital experience is against the theory of its being Scarlet Fever.

Before referring to each disease separately I may add that a curious case of illness was brought under my observation, attention to which was directed by the fact that a child became sick and his urine at the same time acquired a beautiful red colour. It was found that he had eaten a quantity of strongly scented and brightly coloured cachous. The colouring matter proved to be a coal tar product allied to eosin which has previously been known to produce unpleasant results. The vendor of the sweets was cautioned and threw the remainder away. This dye may be harmless if the sweets are used in moderation, and these cachous, originally made for perfuming the breath after smoking, should not be supplied in bulk to children unless a perfectly harmless colouring matter is used.

**SMALL-POX.** Early in May a farm labourer (really of the tramp genus) walked into the surgery of a Chelmsford medical man with the rash of Small-pox well developed. As he was working at a farm in Widford parish he was notified to me. He apparently had no home. He spent his spare time in public-houses and slept in barns or under stacks at night. A great deal of time was spent in tracing his movements and searching out contacts. With one exception the contacts were re-vaccinated. Several alarms of Small-pox were afterwards raised and I examined a number of suspects, but no other case

occurred. The patient was removed to a temporary hospital provided by the Joint Hospital Board.

**DIPHTHERIA.** There has been an extraordinary decrease in the prevalency of this disease, and out of the nine cases notified seven occurred in Writtle parish. In 1898 there were only eight cases of this disease, in other years since 1894 it has ranged from 14 to 184. It is a singular fact that the two years with such a phenomenally low Diphtheria rate were the two years with a phenomenally low rainfall, the amount both in 1898 and 1904 being under 17 inches.

**ENTERIC FEVER.** Not a single case has occurred in any parish save Springfield. Five occurred there. Four cases of illness occurred in one house at the end of February and the beginning of March. For some time the diagnosis was doubtful. I saw the cases in the early stage and obtained no positive result on applying Widal's test to a specimen of blood. At a later date there was no doubt that three of the patients had Typhoid Fever and at this time a friend living not far away was attacked. That there was some common cause for all these cases I am convinced, but what it was I have failed to discover. The milk was blamed locally because on a particular day it had such a peculiar smell and taste that many could not drink it and some returned it to the dairyman. Upon enquiry I found that on the day in question the milker had cut his hand and a bandage containing iodoform had been put on. He was able to milk the cows with the result that the whole of the milk became impregnated with the drug.

At the end of March a case occurred in Springfield quite unconnected with the above. The patient on Feb. 29th received a present of some oysters which he ate. Some time after he felt unwell, but did not become really ill until March 22nd, when he was sick and had slight headache. He died on April 10th. I traced the origin of these oysters. A batch had been bought at B——— on Feb. 27th. Most of them were eaten at Halstead, the remainder being sent from



Halstead to Springfield. No other case of illness occurred amongst those known to have eaten them.

**SCARLET FEVER.** The 48 cases occurred in 10 parishes, but 20 of them were notified from Springfield. There has been no epidemic prevalence, the cases often occurring at distant intervals. In no instances has a milk supply been implicated.

**MEASLES AND WHOOPING COUGH.** These diseases have been widely prevalent. The Table of Causes of Death shews that two deaths were due to Measles and nine to Whooping Cough whilst Scarlet Fever and Diphtheria have not claimed a single victim.

Measles became epidemic in Boreham in February. About Christmas the infection was brought from Springfield and on Jan. 14th a child living in a house from which milk was sold was attacked, and a few days later a second child. Early in February other cases occurred in the village and were alleged to be caused by infected milk. My enquiries, however, showed that this could not be the case. About the middle of February the infection reached the School and this was closed for three weeks. Other Schools closed on account of the prevalence of Measles were Great Baddow and Writtle in July, Great Waltham and Great Leighs in November and Pleshey in December.

**CHICKEN-POX.** This disease occurred in Writtle, Stock and West Hanningfield. It did not seriously interfere with school attendance.

**INFLUENZA.** This disease has been prevalent during the year, but I only know of one epidemic. In June a number of children attending Ford End School were attacked. The symptoms were sickness, acute pain across the chest and severe pain in the head. Some patients became delirious, two if not more had pneumonia. The epidemic subsided at the end of a fortnight.

**JAUNDICE.** I have heard several times of the prevalence of some infectious disorder, the most prominent feature of

which is "Jaundice." Unfortunately, I never hear of these until it is too late to make any special investigation. This year such an outbreak occurred in Stock. The disease affected children only. The onset was marked by fever and vomiting. This was followed by well marked jaundice usually lasting ten days. As many as five children in one house were attacked. The cases were scattered all over the village and no common cause could be assigned. It is possibly another of the protean types of Influenza.

**TUBERCULOSIS.** A house in which a girl had resided who died of consumption was disinfected by the Inspector. This would be willingly done in every case if the medical attendant would recommend the occupants of the house to communicate with me upon the death or removal of a patient. It would probably be wise to make the offer to disinfect after receiving the copy of the death certificate. I purpose commencing this forthwith.

**RINGWORM.** The neglect to attend to an early case of this disease led to its spreading to a considerable number of scholars attending one school. A medical man recommended that the school should be closed. To this I objected and the School Managers acted on my advice.

**ANTHRAX.** On three occasions cattle in this district have been infected, but in no instance has it affected man.

### **Vital Statistics.**

(Tables I. & II.)

During the year 282 deaths occurred in the district, but two of these were persons not belonging to the district who died in the Billericay Hospital at Buttsbury. Thirty-four persons belonging to the district died in the Workhouse or the Chelmsford Infirmary. The nett number of deaths, therefore, is 314 which gives a death-rate of 13·1.

This is a low death-rate even for a rural district, but it is only a little below the average for the last five years.

The death-rates in the various sub-districts are as under:—

Great Waltham	...	...	14·4
Chelmsford	...	...	14·3
Great Baddow	...	...	12·2
Ingatestone	...	...	12·5

The death-rates in various groups of parishes are given in the following Table :—

Parishes.	Popula- tion, 1904.	Death- rate, 1904.	Death- rate average 21 years 1883 to 1904.
Boreham, Little Baddow, Danbury, Sandon	2,577	14·0	13·3
Runwell, Rettendon, Woodham Ferris and the Hanningfields	2,809	14·9	13·9
Roxwell, Chignall, Good Easter, Mashbury and Pleshey	1,966	14·7	15·0
Writtle (including Highwood)	2,752	12·3	14·2
Great Waltham	2,050	11·7	13·1
Broomfield, Little Leighs, Little Waltham and Great Leighs	2,326	15·0	15·3
Springfield	3,358	14·0	13·4
Great Baddow (including Galleywood)	2,330	11·6	15·7
Margaretting and Widford	878	18·2	13·9
Stock and Buttsbury	1,130	17·7	15·7
Ingatestone and Fryerning	1,750	8·6	14·3

**BIRTH-RATES.** The number of births recorded 534, is 220 more than the number of deaths and this would signify a corresponding increase in the population were it not for the exodus which is continually taking place into the towns. The birth-rate is only 22·3 which is below the average and 2 per 1,000 less than the previous year.

The birth-rates in the sub-districts were as under:—

Great Waltham	...	...	18·9
Chelmsford	...	...	26·5
Great Baddow	...	...	21·5
Ingatestone	...	...	24·3

**INFANTILE MORTALITY.** Forty-six infants under 1 year of age died during the year, this is in the proportion of 86 per

1,000 infants born. This is a very low rate and below the average of previous years. The number of premature births, 18, was unusually high.

DEATHS FROM INFECTIOUS DISEASES. Table IV. shews the causes of deaths. The number due to infectious diseases is very low, less than 1 per 1,000. This is about the average of the last five years.

CANCER AND PHTHISIS. The number of deaths from Cancer, 18, is lower than was recorded in 1903, and only about half the number which occurred in 1902.

The Phthisis deaths are also fewer than in preceding years.

Altogether the sickness and mortality statistics for the year are of a most favourable character. They afford no indication of the presence of grossly insanitary conditions or of laxity in sanitary administration, and upon this the Council is to be congratulated.

JOHN C. THRESH.



## **STATISTICAL TABLES.**

TABLE 1.

## VITAL STATISTICS OF WHOLE DISTRICT DURING 1904 AND PREVIOUS YEARS.

## CHELMSFORD RURAL DISTRICT.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER 1 YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL		DEATHS IN PUBLIC INSTITUTIONS.		Deaths of Non-residents registered in Public Institutions.		Deaths of Residents in Public Institutions beyond the District.		DEATHS AT ALL AGES. NETT.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*	Public	INSTITUTIONS.	Deaths of Non-residents registered in Public Institutions.	Deaths of Residents in Public Institutions beyond the District.	Number.	Rate.*	Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13			
1894	23,200	539	22.9	39	72	264	11.4	4	4	4	37	297	12.8		
1895	23,211	587	25.3	55	94	304	13.9	2	2	2	21	323	13.9		
1896	23,400	571	24.4	50	88	287	12.3	3	2	2	20	305	13.0		
1897	23,521	582	24.7	53	91	311	13.2	5	5	5	37	343	14.6		
1898	23,603	523	22.1	69	132	336	14.2	6	4	4	37	369	15.6		
1899	23,650	544	23.0	48	90	275	11.6	9	9	9	26	292	12.2		
1900	23,700	505	21.3	58	115	383	16.1	12	2	2	13	394	16.6		
1901	23,800	543	22.8	42	77	281	11.8	9	1	1	35	315	13.2		
1902	23,850	549	23.0	36	65	283	11.9	10	7	7	34	310	13.0		
1903	23,920	581	24.3	54	93	279	11.6	8	8	8	45	316	13.2		
Averages for years 1894-1903	23,586	552	23.4	51.4	92	300	12.8	6.7	4.4	4.4	30.5	326	13.8		
1904	23,920	534	22.3	46	86	282	11.8	2	2	2	34	314	13.1		

\* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public institutions" taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made is given at the foot of this Table.

Area of District in acres (exclusive of area covered by water), 83,603. Total population at all ages, 23,717  
Number of Inhabited Houses, 5,498  
Average Number of Persons per House 4.3 } At census of 1901.

I. Institutions within the District receiving sick and infirm persons from outside the District.	II. Institutions without the District receiving sick and infirm persons from the District.
Billericay Rural District Council Isolation Hospital.  Chelmsford Joint Hospital	Union Workhouse  Chelmsford & Essex Infirmary

TABLE II. VITAL STATISTICS OF SEPARATE LOCALITIES IN 1904 AND PREVIOUS YEARS.  
CHELMSFORD RURAL DISTRICT.

NAMES OF LOCALITIES	GREAT WALTHAM.				CHELMSFORD.				GREAT BADDOW.				INGATESTONE.				WRITTELE.			
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
YEAR.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
1894	5133	116	72	8	293	7	2	0	6539	145	91	11	6175	147	79	9	5060	125	61	9
1895	5133	115	67	8	293	6	2	0	6250	142	76	12	6175	146	71	11	5060	156	80	18
1896	5133	128	74	13	293	4	2	1	6673	145	98	16	6175	168	98	17	5126	138	55	11
1897	5133	145	80	16	293	7	3	1	6760	157	113	16	6175	156	76	9	5170	137	71	9
1898	5133	120	86	13	293	7	3	0	6842	141	118	15	6175	136	96	11	5160	112	82	22
1899	6415	150	89	15	3666	93	55	8	6966	170	88	16	6175	143	80	19	...	...	...	...
1900	6415	139	96	12	3706	92	73	9	7196	123	129	18	6290	131	60	9	...	...	...	...
1901	6415	117	78	10	3760	92	43	8	7385	169	103	14	6240	151	96	19	...	...	...	...
1902	6420	136	88	5	3770	102	55	16	7420	167	96	16	6240	135	91	10	...	...	...	...
1903	6450	165	79	14	3780	96	54	12	7450	164	106	14	6240	144	71	5	...	...	...	...
Averages of Years 1894-1903	6423	147	86	11	3736	91	56	9.4	7289	159	104	15.6	6227	141	80	12.4	...	...	...	...
1904	6450	122	93	15	3780	100	54	11	7450	160	91	6	6240	152	78	14	...	...	...	...

\*In 1899 a re-arrangement of the Sub-registration districts took place

NOTES—(a) The separate localities adopted for this Table are areas of which the populations are obtainable from the census returns, namely, registration sub-districts.  
 (b) Deaths of residents occurring in public institutions beyond the district are included in sub-columns c of this Table, and those of non-residents registered in public institutions in the district excluded. (See note on Table I. as to meaning of terms "resident" and "non-resident.")  
 (c) Deaths of residents occurring in public institutions, whether without or within the district, are allotted to the respective localities according to the addresses of the deceased.  
 (d) The gross totals of the several columns in this Table respectively equal the corresponding totals for the whole districts in Tables I. and IV.; thus, the totals of sub-columns a, b, and c agree with the figures for the year in the columns 2, 3, and 12, respectively, of Table I.; the gross total of the sub-columns c agree with the total of column 2 in Table IV., and the gross total of sub-columns d with the total of column 3 in Table IV.



TABLE III.  
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1904.  
CHELMSFORD RURAL DISTRICT.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH SUB-REGISTRATION DISTRICT.								No. of Cases Removed to HOSPITAL FROM EACH SUB-REGISTRATION DISTRICT.			
	At all Ages.	At Ages—Years.						1	2	Great Waltham.	Chelmsford.	Great Baddow.	Chelmsford.	Great Baddow.	3	4		
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.											
Small-pox	1	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Diphtheria	9	..	2	5	1	1	..	3	6	..	..	..	..	..	..	..	..	
Membranous Croup	..	..	..	..	..	4	1	3	..	..	..	..	..	..	..	..	..	
Erysipelas	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever	48	..	9	32	5	2	..	6	7	25	..	..	..	..	18	1	..	
Typhus Fever	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	
Enteric Fever	5	..	..	4	..	1	..	..	..	..	..	..	..	..	..	..	..	
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Continued Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Puerperal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Totals	69	1	11	41	6	9	1	12	14	32	10	1	8	18	1	..	..	

NOTE. —The localities adopted for this Table are the same as those in Tables II. and IV.  
H *Isolation Hospital* : Great Baddow.

TABLE IV.

CHELMSFORD RURAL DISTRICT.—CAUSES OF, AND AGES AT, DEATH DURING YEAR 1904.

CAUSES OF DEATH.	DEATHS IN WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN LOCALITIES (AT ALL AGES).				DEATHS IN PUBLIC INSTITUTIONS.	
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Great Waltham.	Chelmsford.	Great Baddow.	Ingtestone.		
Small-pox ..	2	1	1	..	..	..	..	..	2	..	..	..	1
Measles ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	9	2	5	2	..	..	..	7	1	1	..	..	..
Whooping Cough ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria and Membranous Croup ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fever { Typhus ..	1	..	..	..	..	1	..	..	..	1	..	..	1
{ Enteric ..	..	..	..	..	..	..	..	..	..	..	..	..	..
{ Other continued ..	6	2	..	..	1	3	3	1	..	3	2	..	..
Epidemic Influenza ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague ..	4	2	2	..	..	..	..	1	3	..	..	..	..
Diarrhoea ..	1	1	..	..	..	..	..	1	..	..	..	..	..
Enteritis ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas ..	1	..	..	..	..	..	1	..	1	..	1	..	..
Other Septic Diseases ..	17	..	1	3	2	11	1	5	3	7	2	..	..
Phthisis ..	8	..	2	2	1	3	..	2	2	3	1	..	..
Other Tubercular Diseases ..	18	..	..	..	..	11	7	5	4	5	4	..	..
Cancer, Malignant Disease ..	30	6	2	..	..	5	17	12	4	7	7	..	..
Bronchitis ..	10	1	..	..	..	4	6	4	2	2	2	..	..
Pneumonia ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleurisy ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of Respiratory Organs ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alcoholism ..	1	..	..	..	..	1	..	1	..	..	..	..	..
Cirrhosis of Liver ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Venereal Diseases ..	1	1	..	..	..	..	..	2	6	2	1	..	..
Premature Birth ..	18	18	..	..	..	1	..	..	..	..	9	..	..
Diseases and Accidents of Parturition ..	1	..	..	..	..	..	21	6	8	8	13	..	..
Heart Diseases ..	35	1	..	..	1	12	3	2	1	1	5	..	..
Accidents ..	8	..	1	2	2	3	1	2	..	3	1	..	..
Suicides ..	5	..	..	..	1	..	..	..	1	..	..	..	..
All other causes ..	137	11	7	1	4	27	87	44	18	48	27	..	..
All causes ..	314	46	21	10	12	82	146	93	54	91	76	2	..

TABLE V.  
TABLE OF METEOROLOGICAL DATA, DEATHS, AND OF INFECTIOUS DISEASES FOR THE YEAR ENDING  
DECEMBER 31st, 1904, COMPARED WITH PREVIOUS YEARS.

	Meteorological Data.						Deaths from all causes.			Deaths from Zymotic Diseases.								Infectious Diseases Notified.					
	Mean Temperature.	Mean daily range of Temperature.	Relative Humidity.	No. of Rainy Days.	Rainfall in inches.	Total Deaths.	Under 1 year.	Over 65 years.	Scarlet Fever.	Diphtheria and Group.	Small-pox.	Fever.	Diarrhoea.	Erysipelas.	Whooping Cough.	Measles.	Totals.	Small-pox.	Scarlet Fever.	Diphtheria and Group.	Fever.	Erysipelas.	Totals.
January...	37.7	10.8	93	19	1.895	28	7	13	...	...	...	...	...	...	1	...	1	1	...	1	2	...	3
February	38.6	10.4	86	18	2.470	35	3	18	...	...	...	...	...	...	6	...	1	1	...	5	1	...	6
March ..	39.7	14.9	94	15	1.695	36	9	16	...	...	...	...	...	...	9	...	3	1	...	3	...	5	9
April ...	48.7	17.7	73	7	.565	24	1	12	...	...	...	1	...	...	2	...	...	...	4	4	...	...	5
May ....	52.8	16.6	76	14	1.370	28	4	12	...	...	...	...	1	1	...	...	2	1	...	4	1	...	10
June ....	56.8	20.65	68	6	.960	23	4	8	...	...	...	...	...	...	...	...	...	...	...	7	...	...	5
July ....	64.4	22.8	65	7	1.570	22	1	12	...	...	...	...	...	...	...	...	...	...	...	4	...	...	5
August ...	60.6	22.2	66.5	7	1.360	17	4	4	...	...	...	...	1	...	...	2	...	...	...	3	1	...	7
September	53.9	19.8	77	10	.820	28	6	18	...	...	...	...	2	...	...	...	...	...	...	4	1	...	4
October ..	49.4	16.3	83	15	1.110	25	4	13	...	...	...	...	...	...	...	...	...	...	...	5	1	...	5
November	41.2	13.9	89	12	1.360	20	2	6	...	...	...	...	...	...	...	...	...	...	...	2	2	...	5
December	38.8	11.1	91	17	1.645	29	1	14	...	...	...	...	...	...	...	...	...	...	...	4	...	...	4
1904	48.55	16.43	80.1	147	16.82	316	46	146	...	...	...	1	4	1	9	2	17	1	48	9	5	6	69
1903	48.4	15.75	80.1	168	34.355	316	54	135	2	3	...	1	4	...	6	1	17	1	40	43	3	14	101
1902	47.8	15.29	79.8	170	19.33	310	36	127	3	7	1	3	1	...	3	1	19	14	85	115	14	19	247
1901	44.74	16.75	79	140	18.176	316	42	139	17	1	...	1	4	3	5	3	34	...	43	184	9	15	251
1900	49.6	16.3	79.4	157	20.181	394	58	175	0	19	...	0	3	1	8	6	41	...	78	158	25	25	286
1899	49.14	17.36	80.5	146	23.075	296	47	135	0	2	...	0	7	0	4	2	15	...	129	22	5	21	177
1898	49.75	16.25	82.7	133	16.65	369	69	154	2	0	...	1	7	0	7	6	13	...	55	8	21	15	99
1897	48.4	15.55	81.4	152	22.14	343	52	167	1	1	...	1	6	1	7	0	17	...	72	14	11	16	113
1896	49.01	16.18	81.3	145	24.10	305	50	127	3	11	...	0	2	1	10	11	38	...	45	31	12	15	103
1895	48.2	17.2	83.8	144	18.43	323	55	149	0	2	...	3	10	1	5	4	25	...	44	24	12	27	107
1894	47.1	15.7	83.7	197	24.34	300	39	131	1	6	...	1	2	2	2	1	15	2	81	73	8	27	191
Means and Totals.																							

SUMMARY OF WORK done through the Sanitary Inspector  
in the Rural Sanitary District of Chelmsford during the  
year ending December 31st, 1904.

	Total Number for Year	Results of Inspection, &c.
1. Complaints received...	18	
2. Nuisances detected without complaint ... ..	297	
3. Nuisances abated ... ..	295	
4. Notices served ... ..	315	20 not sufficient time for compli- ance
5. Summonses taken out ... ..	3	All overcrowding cases
6. Convictions ... ..	3	
7. Cottages inspected ... ..	1950	
8. Lodging-houses inspected ...	Nil	
9. Slaughter-houses inspected...	9	
10. Bakehouses inspected ... ..	47	
11. Dairies and Milk Shops inspected ... ..	93	
12. Cowsheds inspected ... ..	93	
13. Workshops inspected ... ..	235	Including factories and work- places, also bakehouses
14. Filthy houses cleansed, sec. 46 Public Health Act, 1875	5	
15. Houses disinfected ... ..	33	
16. Overcrowding abated ... ..	7	
17. Houses placed in habitable repair ... ..	12	
18. Houses closed... ..	Nil	
19. Houses erected or re-built for which Water "Cer- tificates" were applied ...	37	
20. "Certificates" granted ...	29	One certificate includes one or more houses
21. " deferred ... ..	3	
22. Wells sunk or improved supplies of water afforded...	Nil	Surveyor's department
23. Wells cleansed or repaired ...	Nil	
24. Wells closed ... ..	Nil	
25. Houses connected with sewers	...	Surveyor's department
26. Houses connected with water mains ... ..	...	Surveyor's department
27. Earth, pail, or improved Privies constructed, or existing Privies altered ...	45	19 new pail closets, 2 new privies, 24 privies altered into pail closets
28. Privies and W.C.'s repaired; W.C.'s supplied with water	57	7 W.C.'s supplied with water
29. Cisterns cleansed, repaired, or covered ... ..	Nil	
30. Animals improperly kept removed ... ..	1	
31. Samples of water taken for Analysis ... ..	56	
32. Compensation paid for destruction of infected bedding ... ..	Nil	
33. Seizures of unsound Meat, &c.	Nil	

WILLIAM EDSER,

*Inspector of Nuisances.*